

PTO 1390 Page 1 of 1

US Dept. of Commerce Pat. &amp; Trademark Office

Attorney's Docket No.

22130

TRANSMITTAL LETTER TO THE UNITED STATES  
DESIGNATED/ELECTED OFFICE (DO/EO/US)  
CONCERNING A FILING UNDER 35 USC 371

US. Application No. (if known)

10/070020

INTERNATIONAL APP. NO.

PCT/GR00/00012

INTERNATIONAL FILING DATE

7 March 2000

PRIORITY DATE CLAIMED

12 October 1999

TITLE OF INVENTION

METHOD FOR ENHANCING THE QUALITY OF THE PRODUCTS OF A TOBACCO PLANT

APPLICANT(S) FOR DO/EO/US

Athanasios NIKOLAOU

Applicant herewith submits to the United States Designated/Elected Office (DO/EU/US) the following .

1. ☒ This is a **FIRST** submission of items concerning a filing under 35 USC 371.
2. ☐ This is a **SECOND** or **SUBSEQUENT** submission of items concerning a filing under 35 USC 371.
3. ☐ This is an express request to begin national examination procedures (35 USC 371(f)) at any time rather than delay examination until the expiration of the applicable time limit set in 35 USC 317(b) and PCT Articles 22 and 39(1).
4. ☒ A proper Demand for International Preliminary Examination was made by the 19th month from the earliest claimed priority date.
5. ☒ A copy of the International Application as filed **IN ENGLISH** (35 USC 371(c)(2)).
  - a. ☒ is transmitted herewith (required only if not transmitted by the International Bureau.
  - b. ☐ has been transmitted by the International Bureau.
  - c. ☐ is not required, as the application was filed in the United States Patent Office.
6. ☐ A translation of the International application into English.
7. ☐ Amendments to the claims of the International Application under PCT Article 19 (35 USC 371(c)(3)).
  - a. ☐ are transmitted herewith (required only if not transmitted by the International Bureau.
  - b. ☐ have been transmitted by the International Bureau.
  - c. ☐ have not been made; however the time limit for making such amendments has NOT expired.
  - d. ☐ have not been made and will not be made.
8. ☐ A translation of the amendments to the claims under PCT Article 19 (35 USC 371(c)(3)).
9. ☒ An oath or declaration of the inventor(s) (35 USC 371(c)(4)).
10. ☒ A translation of the annexes to the International Preliminary Examination Report under PCT Article 36 (35 USC 371(c)(5)).

Items 11. to 16. below concern documents or information included:

11. ☐ An Information Disclosure Statement under 37 CFR 1.97 and 1.98.
12. ☐ An Assignment for recording. A separate cover sheet in compliance with 37 CFR 3.28 and 3.31 is included.
13. ☒ A **FIRST** preliminary amendment.
 ☐ A **SECOND** or **SUBSEQUENT** preliminary amendment.
14. ☐ A substitute specification.
15. ☐ A change of power of attorney and/or address letter.
16. ☒ Other items of information.
 

Drawing (1 sheets)

10070020.02502

**PCT/GR00/00012**

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Rec'd PCT/PTO 26 FEB 2002

22130

IN THE U.S. PATENT AND TRADEMARK OFFICE

Inventor Athanasios NIKOLAOU  
Patent App. Not known (US Nat'l phase of PCT/GR00/00012)  
Filed Concurrently herewith.  
For METHOD FOR ENHANCING THE QUALITY OF THE  
PRODUCTS OF A TOBACCO PLANT  
Art Unit Not known  
Hon. Commissioner of Patents  
Washington, DC 20231

PRELIMINARY AMENDMENT

Prior to examination of the above-identified application,  
please amend as follows:

In the Claims (as amended in the PCT application):

Claim 3, line 2, delete "claims 1 and 2", insert instead  
-- claim 1 --,

Claim 4, line 2, delete "claims 1, 2, and 3", insert  
instead -- claim 1 --,

Claim 5, line 2, delete "claims 1 to 4", insert instead  
-- claim 1 --,

Claim 6, line 2, delete "claims 1 to 5", insert instead  
-- claim 1 --,

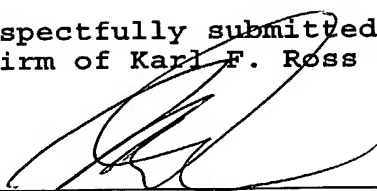
Claim 7, line 2, delete "claims 1 to 5", insert instead  
-- claim 1 --,

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Claim 8, line 2, delete "claims 1 to 7", insert instead  
-- claim 2 --,  
Claim 9, line 2, delete "claims 1 to 7", insert instead  
-- claim 1 --,  
Claim 10, line 2, delete "claims 1 to 9", insert instead  
-- claim 1 --,  
Claim 11, line 2, delete "claims 1 to 10", insert instead  
-- claim 1 --,  
Claim 13, line 2, delete "claims 1 to 12", insert instead  
-- claim 1 --.

This preliminary amendment is submitted just to reduce  
claims charges.

Respectfully submitted,  
The Firm of Karl F. Ross P.C.

  
By: Herbert Dubno, Reg. No. 19,752  
Attorney for Applicant

13 February 2002  
5676 Riverdale Avenue Box 900  
Bronx, NY 10471-0900  
Cust. No.: 535  
Tel: (718) 884-6600  
Fax: (718) 601-1099

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Enclosures:

one set of marked-up claims  
one set of clean claims

2099220-022602

## Method for the qualitative improvement of the products of the tobacco plant

The invention belongs in the field of electronic science and applies in the field of the industrially manufactured products deriving from the tobacco plant, such as cigarettes, cigars, pipe tobacco, tobacco in general and its types. More specifically, the invention concerns the qualitative improvement of the products derived from the tobacco plant and can be applied during the processing of the tobacco and/or during the production of its products.

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With the mass production of cigarettes following World War II, there was a large increase in the cases of lung cancer, mouth and pharyngeal cancer, cardiovascular diseases and, generally, serious and fatal diseases for the human organism. Soon, this fact was linked to the consumption of tobacco products and especially of cigarettes, which contain a large number of toxic chemical substances, both in the solid stage of tobacco and in its gaseous one. In the former, solid, stage, before its burning (use), tobacco contains substances which are directly toxic, like, for example, tar and nicotine. In the latter, gaseous stage, during its burning (use) more toxic substances are produced which are harmful to the human organism.

To counter this problem of the toxic substances which are contained in and produced during the use of these products, there have been used in the last years various industrial products, like the tar- and nicotine-collecting filters of one or multiple uses, the common conventional cigarette filters, as well as, recently, the biological cigarette filters, which, to-date, provide the maximum possible protection from the toxic substances of the solid and gaseous stages of tobacco. This is the state of the art of today's technology. However, all these products attempt to limit the toxic action of the tobacco substances, by intervening during

the smoking stage. To-date there exists no method or product to act on the toxic substances themselves of solid tobacco, limiting their toxic action, before the use of the product, that is, before the product reaches the final consumer.

- 5       The present invention aims at providing a solution to the above mentioned problem of the reduction of the harmful effects of smoking, qualitatively upgrading the tobacco products.

      The present invention constitutes a method which acts on solid tobacco  
10 before its use by the consumer and can be applied either during the industrial processing of tobacco and the production of its final products, or to the final products themselves (cigarette packs, cigars and tobacco pouches). The present invention acts on the existing toxic substances, improving the quality of tobacco, so that the final product used by the consumer has fewer harmful effects on his  
15 health. It constitutes a new original method for the qualitative improvement of the industrial products of the tobacco plant. The qualitative improvement is achieved with the emission towards the industrial products of the tobacco plant of electromagnetic waves covering wide wavelengths, which are produced by electromechanical or electronic devices, the emission of which is pre-  
20 programmed, has controlled power, control application time and control quality result.

      The advantages of the present method is that it acts on the toxic substances themselves of solid tobacco and limits their toxic action, thus achieving a  
25 significant qualitative improvement of the industrial products of tobacco. Moreover, an extremely serious advantage of this method is that the beginning of the improvement is achieved with the beginning of the application of the method, while its required application time for the achievement of substantial improvement is short, not more than a few hours. Another advantage of this

method is that it admits wide industrial application and, moreover, it does not require changes in the working specifications of the existing industrial or manufacturing facilities, either during the stage of the processing of the tobacco or during the stage of the production of the final product (cigarette packs, cigars and tobacco pouches). Another advantage of this method is that it is not applied only during the processing stage of the tobacco and the industrial manufacture of its final products, but it is all applied directly to the final product even after its packaging or while it is in storage areas, and it can also admit household use. Another advantage of the method is that for its application it is not necessary for the tobacco products to be stationary, and neither the device. Thus, the method can be applied on ships or transportation containers, so that their qualitative improvement will have been achieved by the time they reach their destination. Another advantage of this method is that its application is financially expedient, as it requires very low operational costs.

15

The invention is described below, with the aid of non-restrictive examples and with reference to the attached drawing, which illustrates one application form of the method which constitutes the object of the present invention.

The drawing illustrates one application way of the invention, on final industrial tobacco products and final packaged ones.

One application way of the invention is described with reference to the drawing. The final industrial tobacco products (1) are placed packaged in the storage areas or packaged in boxes (2), at the customary storage temperature. Near them is placed an electromechanical or electronic device (3) of programmed operation, which emits electromagnetic waves (6) and from which extends a tube (4) which ends in their emitting antenna (5). The electromagnetic waves (6) are emitted towards the final industrial tobacco products (1) or towards the packaged

ones in the boxes (2). The emitting antenna (5) may constitute an integral part of the emitting device (3) or be connected to it with a tube (4).

The electromechanical or electronic device (3) produces electromagnetic waves (6) which cover wide wavelength ranges, from 1mm to 11,000km, together with their harmonic frequencies, which are produced by the device and which are emitted either in all the wavelengths from 1mm to 11,000km or in one or more parts of particular areas, so as to achieve a resonance of all the elements of tobacco. The areas of the frequencies to which these electromagnetic waves belong are characterized by the international names EHL (extremely high frequencies), SHF (super high frequencies), UHF (ultra high frequencies), VHF (very high frequencies), HF (high frequencies), MF (medium frequencies), LF (low frequencies), VLF (very low frequencies). The emission of the electromagnetic waves (6) is programmed with the electromechanical or electronic circuit of the device (3) so as not to be continuous but pulsatory. The length between the emitted pulses may be of constant or variable time. The length between the pauses of the emitted pulses may be of constant or variable time.

The emission of the electromagnetic waves (6) may be modulated in any way, or it may not be modulated at all.

The emission potency of the electromagnetic waves (6) increases with each augmentative alteration of the distance between the source of the emission (5) of the electromagnetic waves (6) and the industrial tobacco products (1), or even with each augmentative alteration of the volume of the industrial tobacco products (1), to which the method is applied, in order to achieve the same qualitative improvement at the same time, as well as the reverse. Also, with each augmentative alteration of the distance between the source of the emission (5) of the electromagnetic waves (6) and the industrial tobacco products (1), or even with each augmentative alteration of the volume of the industrial tobacco



products (1), to which the method is applied, the application duration time of the method must be increased in order to achieve the same qualitative improvement with the same potency, as well as the reverse.

5 Furthermore, there exists the possibility of electromagnetic waves (6) being emitted from more than one device, simultaneously, in the same place. The total simultaneous emission potency provided must always be low, in order to achieve the desired result, but without causing any substantial increase in the temperature of the industrial tobacco products to which the present method is  
10 applied, without the potency descending below 0.0001 mWatt, whether one device is used or more than one devices.

The user of the method is able to decrease the time required for the achievement of the selected level of qualitative improvement by increasing the total simultaneous emission potency provided by the electromagnetic waves (6),  
15 which must be maintained in low levels, so as not to cause a substantial increase in the temperature of the industrial tobacco products, as well as the reverse, but without the emission potency descending below 0.0001 mWatt.

The initiation of the qualitative improvement of the industrial tobacco products occurs with the initiation of the application of the method, while the  
20 required application time for the occurrence of a substantial improvement is short, not more than a few hours.

The duration period of the application of the method is dependent on the type of the industrial tobacco products to which the method is applied and is proportional to the desirable qualitative result. Thus, the longer the duration  
25 period of the application of the method the greater the qualitative improvement of the industrial tobacco products to which the method is applied.

Also, the method may be applied even if between the source of the pulsatory emission of electromagnetic waves and the industrial tobacco products

there exist materials such as cardboard, wooden boxes, concrete and metals, with the exception of conductible materials which are grounded.

The present method can be widely used by industries, manufacturing and commercial enterprises of tobacco products, and applied either during the processing of the tobacco, or during the manufacture of the products, or even to the final tobacco products after their packaging in the storage areas or they are packaged in boxes.

The method results in a substantial qualitative improvement of the industrial tobacco products, as it counters the toxic substances of solid tobacco contains their toxic action, thus achieving a significant qualitative improvement of the industrial tobacco products, so that the final product used by the consumer has fewer harmful effects on his health.

## CLAIMS

1. A method of qualitative improvement of the products of the tobacco plant (1), to reduce the harmful biological consequences of the use of its products, which uses electromagnetic waves (6), and is characterized by the fact, that the volume of tobacco plant products (1) receives electromagnetic energy from a synthetic electromagnetic emission covering wide ranges of frequencies, comprising a determined and/or not determined multitude of independent electromagnetic waves emissions (6) of different attribute frequency value, and is produced by electronic and/or electromechanical devices (3), each independent emission and/or the synthetic emission as a whole operating non-continuously, but in a way comprising its chronic interruption and/or the change of its power output from maximum to zero using any form of pulses.
2. A method of qualitative improvement of the products of the tobacco plant according to claim 1, characterized by the fact, that each independent emission of electromagnetic waves with attribute frequency values and/or the synthetic emission, which in its entirety consists of a multitude of emissions of electromagnetic waves with different attribute frequency value (6), operates with symmetrical and/or asymmetrical duration of interruption and operation time and with any kind of composition of symmetrical and/or asymmetrical duration of interruption and operation time and any form of pulse for periodical power output change of each independent and/or synthetic emission.
3. A method of qualitative improvement of the products of the tobacco plant according to claim 1, characterized by the fact, that the interruption duration of each independent and/or the synthetic emission may have any value from 1 picosecond to 20 seconds, preferably 1  $\mu$ sec to 2 seconds at the most, and

the duration of operation of each independent and/or the synthetic emission may have any value from 1 femtosecond to 5 seconds, preferably 1 psec to 0,5 seconds at the most.

- 5 4. A method of qualitative improvement of the products of the tobacco plant according to claim 1, characterized by the fact, that the independent emissions of different frequencies of electromagnetic waves (6) have each different and/or the same power and cover a wide range or ranges or the entire widest range of electromagnetic spectrum frequencies from 30 Hz up to 300 GHz, so that the emitted impulse excitation activity of each independent electromagnetic waves emission with attribute frequency value coincides suitably with the natural pulsing frequency of each atomic and/or molecular system of the tobacco elements creating resonance circumstance.
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- 15
- 20 5. A method of qualitative improvement of the products of the tobacco plant according to claim 1, characterized by the fact, that independent emissions of different electromagnetic waves frequencies (6), with any attribute frequency value created in the widest range of electromagnetic spectrum frequencies from 30 Hz up to 300 GHz, are emitted towards the volume of tobacco plant products (1), preferably in the wide range of electromagnetic spectrum frequencies from 30 Hz up to 50 GHz.
- 25
- 30 6. A method of qualitative improvement of the products of the tobacco plant according to claim 1, characterized by the fact, that appliance of the method is carried out by at least one device emitting a predetermined and/or not determined multitude of independent emissions of different electromagnetic waves frequencies (6) when in operation.
- 35 7. A method of qualitative improvement of the products of the tobacco plant according to claim 1, characterized by the

fact, that appliance of the method is carried out by more than one devices emitting each a predetermined and/or not determined multitude of independent emissions of different electromagnetic waves frequencies (6) when in operation, wherein each device emits a predetermined and/or not determined multitude of electromagnetic waves (6) emissions of essentially different and/or essentially identical frequencies as the other devices.

8. A method of qualitative improvement of the products of the tobacco plant according to claim 1, characterized by the fact, that the synthetic emission consisting of a multitude of independent emissions of different electromagnetic waves frequencies (6) of different and/or identical frequencies as a total as well as each independent emission of electromagnetic waves with specific attribute frequency value may be also modulated by any kind of modulating type.

9. A method of qualitative improvement of the products of the tobacco plant according to claim 1, characterized by the fact, that it is also applied by the essentially simultaneous or not operation of more than one devices emitting a predetermined and/or not determined multitude of independent electromagnetic waves (6) emissions of different frequencies in the same place, where each one emits electromagnetic energy of the same and/or different power.

10. A method of qualitative improvement of the products of the tobacco plant according to claim 1, characterized by the fact, that the total of power emitted towards the tobacco products must bring about the desired result remaining at low levels, so that no significant increase of temperature occurs in the tobacco products to which the method is applied, either by using one or more devices.

11. A method of qualitative improvement of the products of the tobacco plant according to claim 1, characterized by the fact, that the duration of its application depends on the kind of tobacco products on which it is applied, and that the duration  
5 of said application is in proportion to the desired qualitative improvement, so that the longer the duration of application the greater the qualitative improvement of the tobacco products on which application takes place.

10 12. A method of qualitative improvement of the products of the tobacco plant according to claim 1, characterized by the fact, that it is applied to final tobacco products or not, which may be either at some stage of production, or after completion of their production, or while storage and with any way or  
15 material of packaging, even if any material is interposed between the electromagnetic energy emission source and the tobacco products with the exception of conductible materials which are grounded.

20 13. A method of qualitative improvement of the products of the tobacco plant according to claim 1, characterized by the fact, that it can be used broadly in industry, manufacturing and commercial enterprises of tobacco products.

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(12) INTERNATIONAL APPLICATION PUBLISHED UNDER THE PATENT COOPERATION TREATY (PCT)

(19) World Intellectual Property Organization  
International Bureau



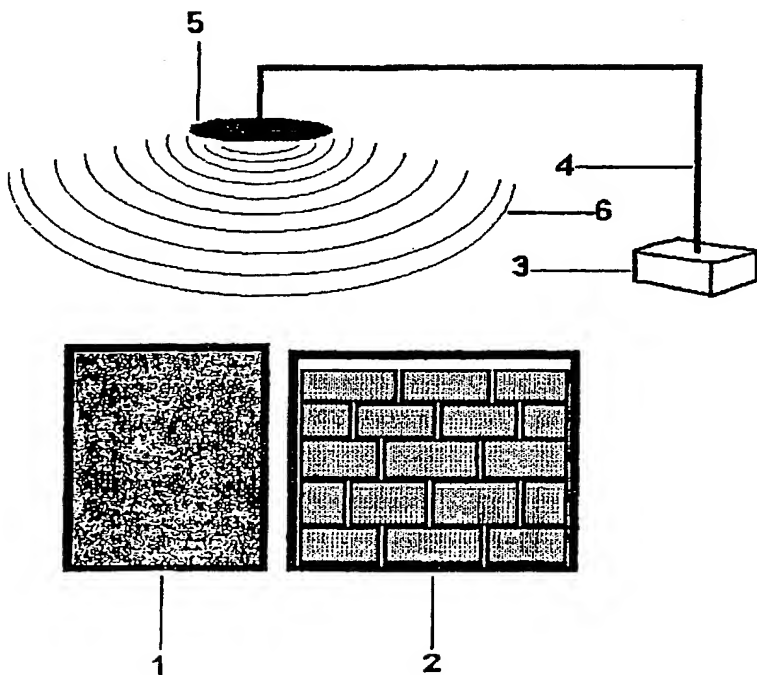
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- (30) Priority Data:  
99600015.4 **12 October 1999 (12.10.1999) EP**
- (71) Applicant and  
(72) Inventor: **NIKOLAOU, Athanasios [GR/GR]; 8 Evrou Str., GR-191 00 Megara Attikis (GR).**
- (74) Agent: **PANAGIOTIDOU, Effimia; 41 Mitropoleos, GR-546 23 Thessaloniki (GR).**
- (81) Designated States (*national*): **AE, AL, AU, BA, BB, BG, BR, CA, CN, CR, CU, CZ, DM, EE, GD, GE, HR, HU, ID, IL, IN, IS, JP, KP, KR, LC, LK, LR, LT, LV, MA, MG, MK, MN, MX, NO, NZ, PL, RO, SG, SI, SK, TR, TT, UA, US, UZ, VN, YU, ZA.**
- (84) Designated States (*regional*): **ARIPO patent (GH, GM, KE, LS, MW, SD, SL, SZ, TZ, UG, ZW), Eurasian patent (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), OAPI patent (BF, BJ, CF, CG, CI, CM, GA, GN, GW, ML, MR, NE, SN, TD, TG).**
- Published:**  
— *With international search report.*
- For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.*

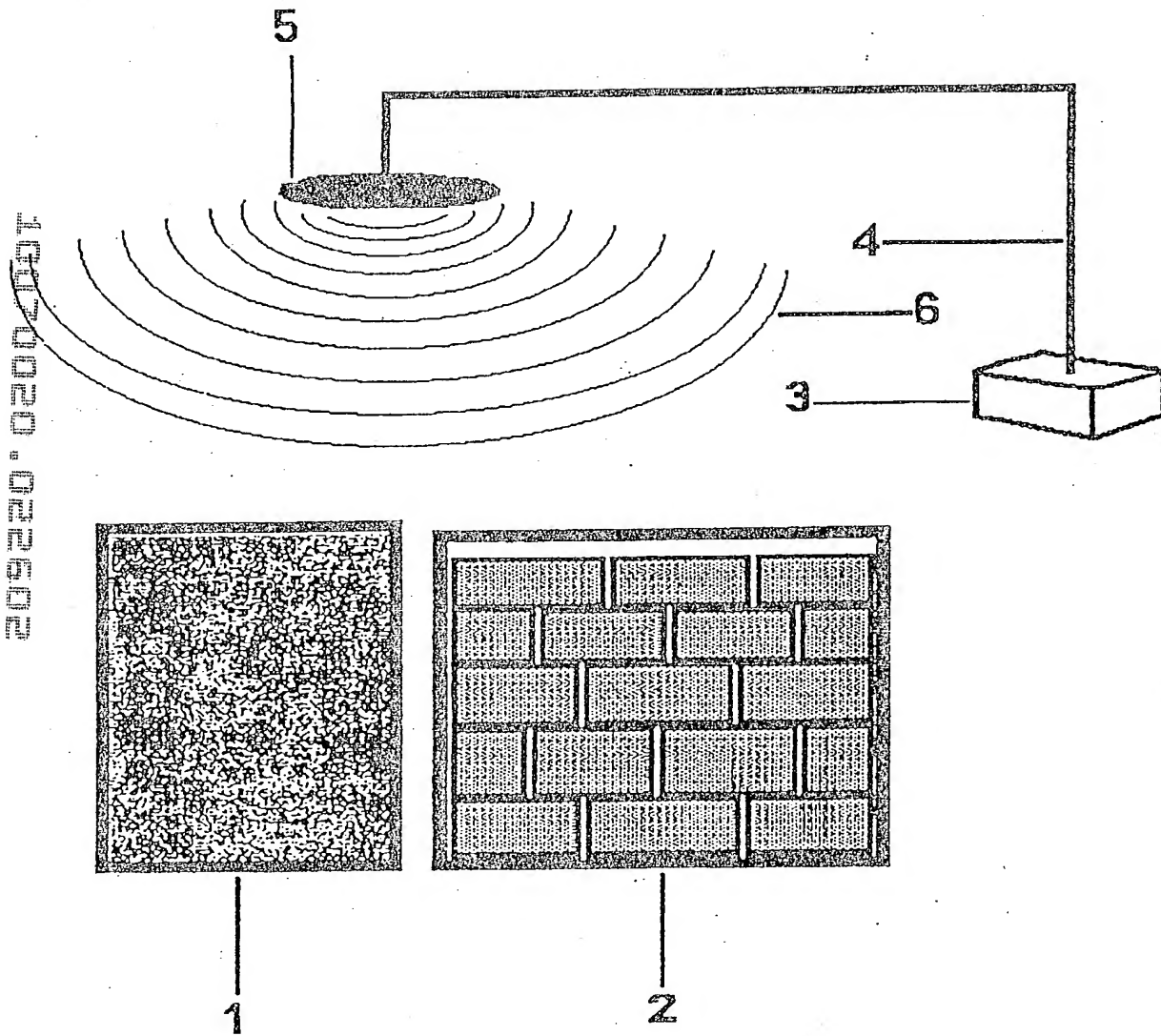
(54) Title: **METHOD FOR THE QUALITATIVE IMPROVEMENT OF THE PRODUCTS OF THE TOBACCO PLANT**



(57) Abstract: The method belongs to the field of electronic science and is applied to the field of the manufacture of products deriving from the tobacco plant, such as cigarettes, cigars, pipe tobacco, tobacco in general, and achieves their qualitative improvement. The qualitative improvement is achieved with the pulsatory emission of electromagnetic waves (6) towards the tobacco products, which are produced by electromechanical or electronic devices (3), are pre-programmed, cover wide ranges of wavelengths from 1 mm to 11,000 Km, together with their harmonic frequencies, which are produced by the device and which are emitted either at all wavelengths from 1 mm to 11,000 Km, or at one or more parts of particular areas, with controlled potency, controlled application time and controlled application result. It is applied in industries, manufacturing and commercial enterprises of final or not tobacco products, which are either at the processing stage, or after the completion of their manufacture, or during their storage, regardless of the way or the materials they are packaged with.

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Drawing 1



10070020.022602



**DECLARATION AND POWER OF ATTORNEY**

As a below named inventor, I hereby declare that: My residence, post-office address, and citizenship are as stated below next to my name,  
I believe that I am the original, first, and sole inventor of the subject matter which is claimed and for which a patent is sought on the invention entitled

**METHOD FOR ENHANCING THE QUALITY OF THE PRODUCTS OF A TOBACCO PLANT**

the specification of which was filed on **7 March 2000** as PCT application **PCT/GR00/00012**.

I hereby state that I have reviewed and understand the contents of the above-identified specification, including the claims.

I acknowledge the duty to disclose information which is material to patentability as defined in 37 CFR 1.56. I hereby claim foreign priority benefits under 35 USC 119 of any foreign applications for patent or inventor's certificate listed below and have also identified below any foreign applications for patent or inventor's certificate having a filing date before that of the application on which priority is claimed:

**Prior Foreign Applications**

Country	Number	Filing Date	Priority claimed
EP	99600015.4	12 October 1999	Yes

I hereby claim the benefit under 35 USC 120 of the United States Application(s) listed below and, insofar as the subject matter of each of the claims of this application is not disclosed in the prior United States Application(s) in the manner provided by the first paragraph of 35 USC 112, I acknowledge the duty to disclose material information as defined in 37 CFR 1.56 which occurred between the filing date of the prior application and the national or PCT international filing date of this application:

Serial Number	Filing Date	Status
PCT/GR00/00012	7 March 2000	Pending

I hereby appoint as attorneys to prosecute this application and to transact all business connected therewith: **Herbert Dubno, Reg. 19,752; Jonathan Myers, Reg. 26,963; Andrew Wilford, Reg. 26,597** and each of them individually.

Address all correspondence to:

**The Firm of Karl F. Ross, P.C.**  
**Customer Number 535**

**5676 Riverdale Avenue, Box 900**  
**Bronx, New York 10471-0900**  
**(718) 884-6600**

Direct all telephone calls to:

I hereby declare that all statements made herein of my own knowledge are true and that all statements made on information and belief are believed to be true and further that these statements were made with the knowledge that willful false statements and the like so made are punishable by fine or imprisonment, or both, under 18 USC 1001 and that such willful false statements may jeopardize the validity of the application or any patent issued thereon.

Full name of sole inventor:

**Athanasios NIKOLAOU**

Inventor's signature

Date:

**2/7/2000**

Residence: **Megara Attikis, Greece**

Citizen of Greece

Post-office Address: **8 Evrou Street, GR-191 00 Megara Attikis, Greece**

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